

APR 07 2005
PTO/SB/08A (08-03)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
GPO: 2005 OMB Control Number 0651-0031

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 4

Complete if Known

Application Number	10/669,337
Filing Date	09/25/2003
First Named Inventor	V. Crespi, et al.
Art Unit	1712
Examiner Name	

Attorney Docket Number MR1735-89

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ² (<i>if known</i>)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
RMS	A	US- 6,841,139	1/11/2005	Margrave, et al.	
RMS	B	US- 6,423,583	7/23/2002	Avouris, et al.	
RMS	C	US- 6,368,569	4/9/2002	Haddon, et al.	
RMS	D	US- 6,333,016	12/25/2001	Resasco, et al.	
RMS	E	US- 6,331,262	12/18/2001	Haddon, et al.	
RMS	F	US- 6,303,016	10/16/2001	Diener, et al.	
RMS	G	US- 2001/0004471	6/21/2001	Zhang	
RMS	H	US- 5,904,852	5/18/1999	Tour, et al.	
RMS	I	US- 5,851,503	12/22/1998	Mitani, et al.	
RMS	J	US- 5,711,927	1/27/1998	Atwood, et al.	
RMS	K	US- 5,698,174	12/16/1997	Müller, et al.	
RMS	L	US- 5,695,734	12/9/1997	Ikazaki, et al.	
RMS	M	US- 5,560,898	10/1/1996	Uchida, et al.	
RMS	N	US- 5,487,831	1/30/1996	Pirkle, et al.	
RMS	O	US- 5,338,529	8/16/1994	Pirkle, et al.	
RMS	P	US- 5,300,203	4/5/1994	Smalley	
		US-			
		US-			
		US-			

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document Country Code ³ -Number ⁴ -Kind Code ⁵ (<i>if known</i>)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶

Examiner Signature

Rebecca M. Stadler

Date Considered

November 16, 2005

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

Complete if Known**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 2

of 4

Application Number	10/669,337
Filing Date	09/25/2003
First Named Inventor	V. Crespi, et al.
Art Unit	1712
Examiner Name	

Attorney Docket Number MR1735-89

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
RMS	A1	Chen, R., et al. "Noncovalent sidewall functionalization of single-walled carbon nanotubes for protein immobilization", J. Am. Chem. Soc., 2001, 123 pp. 3838-9.	
RMS	B1	Collins, P., et al., "Engineering carbon nanotubes and nanotube circuits using electrical breakdown", Science, Apr 27, 2001, Vol. 292, pp. 706-9.	
RMS	C1	Krupke, R., et al., "Separation of metallic from semiconducting single-walled carbon nanotubes", Science, Jul 18, 2003; Vol. 301, pp. 344-7.	
RMS	D1	Liu, J., et al., "Fullerene Pipes", Science, May 22, 1998, Vol. 280, pp. 1253-1256.	
RMS	E1	Georgakilas, V., et al., "Organic Functionalization of Carbon Nanotubes", J. Am. Chem. Soc., Vol. 124, No. 5, 2002, pp. 760 -761	
RMS	F1	Huang, Y., et al., "Directed assembly of one-dimensional nanostructures into functional networks", Science, Jan 26, 2001, Vol. 291, pp. 630-3.	
RMS	G1	Buogirono Nardelli, M., et al., "Mechanism of Strain Release in Carbon Nanotubes", Phys. Rev. B, Vol. 57, No. 8, 1998, pp. 4277-4280.	
RMS	H1	Zheng, M., et al., "DNA-assisted dispersion and separation of carbon nanotubes", Nature Materials, May 2003, Vol. 2, No.5, pp. 338-42, Advance Online Publication, April 6, 2003, www.nature.com/naturematerials, doi:10.1038/nmat877, pp. 1-5.	
RMS	I1	O'Connell, M., et al., "Band gap fluorescence from individual single-walled carbon nanotubes", Science, Jul 26, 2002, Vol. 297, pp. 593-6.	
RMS	J1	Zhang, P., et al., "Plastic deformations of carbon nanotubes", Phys. Rev. Lett. Vol 81, No. 24, Dec. 14, 1998, pp. 5346-5349.	

Examiner Signature	Rebecca M. Hadler	Date Considered	November 16, 2005
--------------------	-------------------	-----------------	-------------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

Complete If Known**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 3

of 4

Application Number 10/669,337

Filing Date 09/25/2003

First Named Inventor V. Crespi, et al.

Art Unit 1712

Examiner Name

Attorney Docket Number MR1735-89

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
<i>RMS</i>	K1	Yakobson, B., et al. "Mechanical relaxation and "intramolecular plasticity" in carbon nanotubes", Appl. Phys. Lett. Vol. 72, No. 8, 1998, pp. 918-920.	
<i>RMS</i>	L1	Stone, H., et al., "Microfluidics: Basic issues, applications, and challenges", AIChE Journal, Vol. 47, No. 6, June 2001, pp. 1250-1254.	
<i>RMS</i>	M1	Service, R., "Nanotechnology. Sorting technique may boost nanotube research", Science, Jun 27, 2003, Vol. 300, p. 2018.	
<i>RMS</i>	N1	Diehl, M., et al., "Self-assembled, deterministic carbon nanotube wiring networks", Angew. Chem. Int. Ed. Engl., Jan 18, 2002, Vol. 41, No. 2, pp. 353-6.	
<i>RMS</i>	O1	Star, A., et al., "Dispersion and solubilization of single-walled carbon nanotubes with a hyperbranched polymer" Macromolecules, 2002, Vol. 35, pp. 7516-7520.	
<i>RMS</i>	P1	Huczko, A., "Synthesis of Aligned Carbon Nanotubes", Applied Physics A, Vol. 74, 2002, pp. 617-638.	
<i>RMS</i>	Q1	Chen, J., et al., "Solution properties of single-walled carbon nanotubes", Science, Oct 2, 1998, Vol. 282, pp. 95-98.	
<i>RMS</i>	R1	Cabodi, M., et al., "Entropic recoil separation of long DNA molecules", Analytical Chemistry, Oct. 15, 2002, Vol. 74, No. 20, pp. 5169-5174.	
<i>RMS</i>	S1	Star A, et al., "Preparation and Properties of Polymer-Wrapped Single-Walled Carbon Nanotubes", Angew. Chem. Int. Ed. Engl., May 4, 2001, Vol. 40, No. 9, pp. 1721-1725.	
<i>RMS</i>	T1	Lynch, M., et al., "Organizing Carbon Nanotubes with Liquid Crystals", Nano Letters, Vol. 2, No. 11, 2002, pp. 1197-1201.	

Examiner Signature	<i>Rebecca M. Stadler</i>	Date Considered	<i>November 16, 2005</i>
--------------------	---------------------------	-----------------	--------------------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 4

of 4

<i>Complete if Known</i>	
Application Number	10/669,337
Filing Date	09/25/2003
First Named Inventor	V. Crespi, et al.
Art Unit	1712
Examiner Name	

Attorney Docket Number MR1735-89

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
<i>MM</i>	U1	Harte, A., "Liquid Crystals Allow Large-Scale Alignment of Carbon Nanotubes", CURJ, November, 2001, Vol. 1, No. 2, pp. 44-49.	
<i>MM</i>	V1	Yanagi, H., et al., "Self-Orientation of Short-Walled Carbon Nanotubes Deposited on Graphite", J. Appl. Phys., Vol. 78, No.10, 2001, pp. 1355-1357.	
<i>MM</i>	W1	Pompeo, F., et al., "Water-solubilization of single-walled carbon nanotubes by functionalization with glucosamine", NanoLetters Vol. 2, No. 4, 2002, pp. 369-373.	

Examiner Signature	<i>Rebecca M. Stadler</i>	Date Considered	<i>November 16 2005</i>
--------------------	---------------------------	-----------------	-------------------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.